

NH Career Clusters

Agriculture

What is the Agriculture Career Cluster?

Career Opportunities



1. Floral Designer
2. Waste Water Treatment Plant Operator
3. Fish & Game Officer
4. Pet Store Manager
5. Int'l Agri-Marketing Specialist
6. Marine Biologist
7. Landscape Architect

The Agriculture Pathway focuses on preparing students for careers in the planning, implementation, production, management, processing and/or marketing of agricultural commodities and services including food, fiber, wood products, natural resources, horticulture, and other plant and animal products. It also includes related technical and educational services. Strands within the pathway include: Animal Science, Plant Science, Natural Resources & Environmental Services, Power, Structural and Technical Systems and Agribusiness. Career and Technical Centers in New Hampshire offer curricula in each of the above strands that lead to post-secondary programs or immediate employment.

Thinking about pursuing an Agriculture Career?

A strong background in the life sciences in addition to the Agriculture Career & Technical Programs is strongly recommended for those students pursuing the Animal and Plant Science and Natural Resources & Environmental Services careers.

Anatomy & Physiology is suggested in the Animal Science strand. Business electives are encouraged for those interested in Agribusiness.

Courses in computer programming are the suggested electives for those studying Power, Structural & Technical Systems.

Architecture & Construction

What is the Architecture & Construction Career Cluster?

This diverse cluster is a full two-year program of instruction that will prepare students for careers in designing, planning, managing, building and maintaining the built environment. People employed in this cluster work on new structures, restorations, additions, alterations and repairs. New Hampshire has divided this cluster into four different pathways, which are grouped by the knowledge and skills required for occupations in each of these career fields. The four pathways are: General Drafting, Electrician, Plumbing and Pipe Fitters, Heating Ventilation and Air-conditioning, and Building Trades. Each pathway provides instruction as a basis for success in an array of careers and educational pursuits.

Career Opportunities



1. Architect
2. Computer-Aided Drafter(CAD)
3. Landscape Designer
4. Carpenter
5. Electrician
6. Pipe Fitter
7. Demolition Engineer
8. Equipment Operator
9. Environmental Engineer

Thinking about pursuing an Arhcitecture & Construction Career?

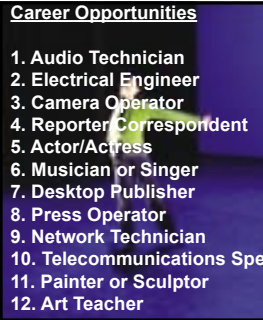
There are thousands of challenging educational and training opportunities within the high-skilled world of Architecture & Construction, Learners need a solid background in math, science, and technical skills.

Education & training can be obtained in high schools, technical colleges, two-yr community colleges, four-yr colleges/universities, apprenticeship programs and career technical schools/institutes.

Arts, A/V Technology & Communications

What is the Arts, A/V Technology & Communications Career Cluster?

Career Opportunities



1. Audio Technician
2. Electrical Engineer
3. Camera Operator
4. Reporter/Correspondent
5. Actor/Actress
6. Musician or Singer
7. Desktop Publisher
8. Press Operator
9. Network Technician
10. Telecommunications Spe
11. Painter or Sculptor
12. Art Teacher

Information, communication, technology, and rapid change are leading forces in the twenty-first century. In response, the world of work has shifted away from manufacturing and toward the knowledge and creative based economies. Flexibility and innovation have become commodities of the times. In today's creative economy, the arts provide the training and service for a workforce driven by innovation. This career cluster focuses on those courses of study which, by their very nature, develop collaborative skills, creative thinking and an appreciation for diversity. By study and practice, the arts prepare students to succeed in the twenty-first century.

Thinking about pursuing an Arts, A/V Technology & Communication Career?

These career pathways cover a variety of arts, communication and design avenues, including performing art, fine art, graphic art, design industries, film, broadcasting and certain aspects of journalism.

All areas require activities and courses that challenge students' creative talents and all pathways require the ability to communicate effectively in oral, written, and/or visual modalities.

Students who engage in this career cluster will be expected to gain knowledge in basic math, language arts, science, and technology as well as practical experience in their chosen discipline.

WHAT Is A Career Cluster?

Career Clusters prepare students for the information age as schools strive for higher achievement in science, math, & communication. One key to improving student achievement is providing them with relevant contexts for learning. Career Clusters offer a context for learning by linking what students learn in school with the knowledge and skills they need for success.

Biotechnology*

What is the Biotechnology Career Pathway?

The biotechnology pathway focuses on preparing students for careers in the rapidly growing biotechnology industries. These industries include biomanufacturing, bioinformatics, genomics and pharmaceuticals. Other related fields are agriculture, aquaculture, biomedical sciences, ethics and law, and forensics. **This is a pathway that can be found within the Agriculture, Science & Tech, and Health Science Clusters.*

Career Opportunities



1. Process Technician
2. Laboratory Tech/Analyst
3. Quality Control Tech/Analyst
4. University Professor
5. Research Assistant/Associate
6. Quality Assurance
7. Validation
8. Genomics/Bioinformatics
9. Research Scientist

Thinking about pursuing a Biotechnology Career?

The pathway begins in middle school when students are exposed to biotechnological concepts in science classes.

In high school the pathway includes courses in Biology, Chemistry and a foundation in mathematics at least to the level of Algebra II.

Technology courses and a solid foundation in the language arts provide more options for the students as they move along the pathway.

A few high schools offer microbiology and advanced level sciences courses, which provide students with opportunities for acceleration.

Business Management & Administration

What is the Busines Management & Administration Career Cluster?

The Business Management and Administration Career Cluster prepares students for careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. New Hampshire is currently offering three pathways from this Career Cluster:

Accounting Technician, Business Technology, & Business: Information Technology.

These pathways are grouped by the knowledge and skills required of occupations in each career field. Each pathway provides instruction as a basis for success in an array of careers and educational pursuits, such as: Accounting, Business Administration Management or Business Information Management.

Career Opportunities



1. Entrepreneur
2. CEO or General Manager
3. Accountant or Auditor
4. Price Analyst
5. Training & Dev Spec
6. Investment Analyst
7. Systems Analyst
8. Sales Engineer
9. Public Relations Spec
10. Computer Operator
11. Administrative Assistant

Thinking about pursuing a Business Management & Administration Career?

There are a wide selection of courses to choose from that will provide training in skills and concepts for entry level employment, for personal use and as a foundation for advanced business education after high school. Employees in this area use technology to perform and coordinate the administrative activities of an office.

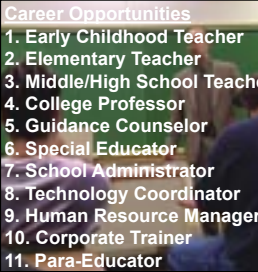
The array of courses offered will build and strengthen academic foundations, business communications, problem-solving, critical thinking, information technology applications, leadership and teamwork necessary to function in diverse business settings.

Education & Training

What is the Education & Training Career Cluster?

The Future Educators Pathway is built on a school-to-career model. The first objective – career awareness and identification – is met through the first option: Future Educators Exploring Teaching (FEET). FEET is an after-school program for 8th and 9th graders and offers a series of exploratory activities that include informational interviews, classroom observations and “practice” teaching a mini-lesson. The second objective – career verification and validation – is met through the Future Educators Academy (FEA). The Future Educators Academy targets high school juniors and seniors who have, as a result of their exploratory activities through FEET, identified a serious interest in the field of education.

Career Opportunities



1. Early Childhood Teacher
2. Elementary Teacher
3. Middle/High School Teacher
4. College Professor
5. Guidance Counselor
6. Special Educator
7. School Administrator
8. Technology Coordinator
9. Human Resource Manager
10. Corporate Trainer
11. Para-Educator

Thinking about pursuing an Education & Training Career?

There are thousands of challenging educational and training opportunities within the high-skilled world of Education and Training.

Learners need a solid background in academic, technical, and presentation and facilitation skills.

Postsecondary Schools that offer Teacher Certification Programs(s)

4-Year: Colby-Sawyer College, Daniel Webster College, Dartmouth College, Franklin Pierce College, Keene State College, New England College, Notre Dame College, Plymouth State College, Rivier College, Southern NH University, St. Anslem College, University of NH

2-Year: NHTI-Concord

Engineering*

What is the Engineering Career Pathway?

The Project Lead the Way (PLTW) pre-engineering curriculum serves as the engineering career pathway for New Hampshire. The focus of the program is on enhancing students' mathematics and science performance and providing students with the information necessary to make informed decisions about careers in engineering and engineering technology. The PLTW curriculum is a five-course sequence that starts at the ninth grade and includes course in engineering design, electronics, principles of engineering, manufacturing and mechanical engineering, and, beginning with 2002-03 school year, civil and architectural engineering. The courses meet national standards in mathematics, science, technology education, and the New Hampshire standards in mathematics and science. **This is a pathway within the Science, Technology, Engineering & Mathematics Cluster.*

Career Opportunities

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1. Engineer
 2. Engineering Tech
 3. Researcher
 4. Project Planning & Mgt
 5. Plant Managers

Thinking about pursuing an Engineering Career?

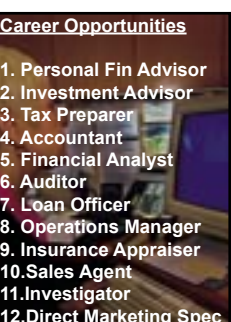
Students should get a solid background in math, science, and technical skills.

Pre-engineering courses strongly recommended for those students interested in engineering include: Introduction to Engineering Design, Digital Electronics, Principles of Engineering and Computer Integrated Mathematics, and Engineering Design and Development.

Finance

What is the Finance Career Cluster?

The financial services pathway focuses on preparing students for careers in Financial Services. The pathway includes a program called the Academy of Finance (AOF). AOF is a nationally acclaimed, industry-validated curriculum model sponsored by the National Academy Foundation (www.naf.org). The model includes course work in areas such as banking and credit, securities and insurance, and financial planning; a paid summer internship between the student's junior and senior year of high school; and articulation agreements with two- and four-year colleges.

- ### Career Opportunities
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1. Personal Fin Advisor
 2. Investment Advisor
 3. Tax Preparer
 4. Accountant
 5. Financial Analyst
 6. Auditor
 7. Loan Officer
 8. Operations Manager
 9. Insurance Appraiser
 10. Sales Agent
 11. Investigator
 12. Direct Marketing Spec

Thinking about pursuing a Finance Career?

Students should get a solid background in math, economics, and accounting.

Courses recommended for those students interested in finance include: Intro to Finance, Banking and Credit, Securities and Insurance, International Finance, and Financial Planning. Check with your guidance office for comparable courses at your school.

Geographic Information Systems*

What is the Geographic Information System Career Pathway?

The Geographic Information Systems Career Pathway focuses on preparing students for careers in the continually evolving and expanding Spatial Information Technology Industry. GIS is a powerful computer-based technology that allows trained users to create, map, merge, analyze and manipulate spatial information as well as other types of data. This data is represented as different layers on maps. GIS uses technologies such as Global Positioning Systems (GPS) and Remote Sensing (RS), to gather information all over the world. This is a highly skilled computer based field. Students in the Pathway will learn the basics of GIS, related software and its applications. **This is a pathway that can be found within the Science, Technology, Engineering & Mathematics Cluster.*

Career Opportunities

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1. Field Technician
 2. GIS Specialist
 3. Cartographer
 4. Natural Resources Spec
 5. City/Regional Planner
 6. Forester/Surv/ Environmentalist
 7. Public Utilities Planner
 8. Earth Research Scientist
 9. Data/Information Mgt
 10. University Research/ Professor

Thinking about pursuing a Geographic Information Systems Career?

Careers in Geographic Information Systems require strong computer, communications, and project management skills. Many schools in NH are developing project based learning programs.

We currently have one Spatial Information Technology Program and are developing a several other Geographic Information Systems Programs. Check with your guidance office for course selection assistance.

For information on who to contact or for more details regarding any of these Career Clusters go to the New Hampshire Department of Education's Tech Prep and Career Clusters web page at:

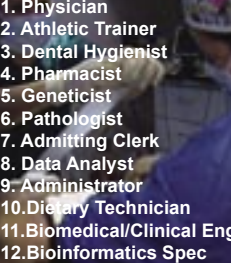
www.ed.state.nh.us/education/doe/organization/adultlearning/Career%20Development/careerpaths.htm

Health Science

What is the Health Science Career Cluster?

The Health Sciences Cluster focuses on preparing students for careers in planning, managing, and providing therapeutic services, diagnostic services, and health informatics. Strands within the pathway include but are not limited to: Dental Services, Diagnostic Medical Imaging, Dietetics, Health Information Technology, Human Services, Emergency Medical Services, Exercise and Sports Medicine, Holistic Healthcare, Medical (Clinical) Laboratory Science, Nursing, Nutrition, Optometry, Pathology, Pharmacology, Rehabilitation Therapies, and Surgical Technology.

Career Opportunities

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1. Physician
 2. Athletic Trainer
 3. Dental Hygienist
 4. Pharmacist
 5. Geneticist
 6. Pathologist
 7. Admitting Clerk
 8. Data Analyst
 9. Administrator
 10. Dietary Technician
 11. Biomedical/Clinical Eng
 12. Bioinformatics Spec

Thinking about pursuing a Health Science Career?

A strong background in the life sciences is the foundation of the health sciences cluster: high school biology and chemistry.

Advanced courses in Anatomy and Physiology, Biology, Chemistry, and Microbiology are strongly encouraged.

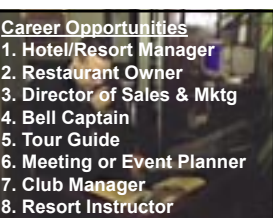
Physics is an essential component in the Diagnostic Medical Imaging strand.

Mathematics courses are also an important part of the curriculum, especially algebra.

Hospitality & Tourism

What is the Hospitality & Tourism Career Cluster?

The Hospitality and Tourism Career Cluster focuses on preparing students for careers in the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events and travel-related services. An important aspect of Hospitality and Tourism is the diversity of career pathways represented including Culinary Arts, Travel and Tourism, Lodging Management, Convention Bureau/Conference Planning and Recreation, and Amusements and Attractions.

- ### Career Opportunities
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1. Hotel/Resort Manager
 2. Restaurant Owner
 3. Director of Sales & Mktg
 4. Bell Captain
 5. Tour Guide
 6. Meeting or Event Planner
 7. Club Manager
 8. Resort Instructor

Thinking about pursuing a Hospitality & Tourism Career?

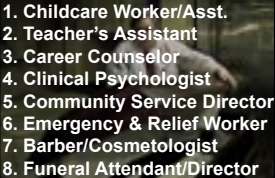
Courses recommended for those students interested in hospitality & tourism include: Culinary Arts, Intro to Business, Intro to Hospitality & Tourism, Baking & Catering, and Property Management. Check with your guidance office for comparable courses and a more specific course selection criteria at your school.

Human Services

What is the Human Services Career Cluster?

The Human Services Career Cluster prepares individuals for employment in career pathways related to families and human needs. It focuses on preparing students for careers in early childhood development, counseling and mental health services, family and community services, personal care services, and consumer services.

Career Opportunities

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1. Childcare Worker/Asst.
 2. Teacher's Assistant
 3. Career Counselor
 4. Clinical Psychologist
 5. Community Service Director
 6. Emergency & Relief Worker
 7. Barber/Cosmetologist
 8. Funeral Attendant/Director

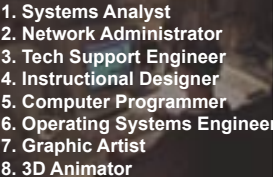
Thinking about pursuing a Human Services Career?

A strong background in the life sciences in addition to the Human Services Technical Programs is strongly recommended for those students pursuing a career in Human Services.

Courses such as Anatomy & Physiology, Psychology, Sociology, and Adult Roles and Responsibilities should be considered. Check with your guidance office for comparable courses and a more specific course selection criteria at your school.

Information Technology

Career Opportunities

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1. Systems Analyst
 2. Network Administrator
 3. Tech Support Engineer
 4. Instructional Designer
 5. Computer Programmer
 6. Operating Systems Engineer
 7. Graphic Artist
 8. 3D Animator

What is the Information Technology Career Cluster?

Information Technology careers require the ability to study, develop, support, manage, design or implement computer-based information systems, including hardware, software, multimedia & systems integration services.

Thinking about pursuing an Information Technology Career?

The IT Career Pathway's core courses - IT & ME and IT & ME Works - prepare students to live, learn and work in the global economy by teaching them to:

- Read, understand and communicate technical information;
- Apply technical concepts to solve problems and make decisions; and
- Perform entry-level functions in Interactive Media, Programming & Software Development, PC Hardware & Networking and Business Technologies.

Law, Public Safety & Security

Career Opportunities

What is the Law, Public Safety and Security Career Cluster?

The Law, Public Safety, and Security Pathway (LPSS) helps prepare students for careers in planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical services. This pathway includes coursework in such areas as criminology, forensics, and psychology.

1. Corrections Officer/Trainer
2. Youth Services Worker
3. Emergency Medical Tech
4. Fire Fighter
5. Loss Prevention Spec
6. Security Director
7. Federal Marshall
8. Private Investigator
9. Paralegal
10. Attorney

Thinking about pursuing a Law, Public Safety and Security Career?

Courses recommended for those students interested in Law, Public Safety and Security include: Forensics, World Literature & Law, Criminology, Chemistry, Psychology (abnormal psychology). Check with your guidance office for comparable courses and a more specific course selection criteria at your school.

Manufacturing

Career Opportunities

What is the Manufacturing Career Cluster?

The manufacturing career cluster prepares learners for careers in planning, managing, and performing the processing of materials into intermediate or final products. It also prepares students to provide professional and technical support in carrying out these activities. Manufacturing is a diverse cluster which prepares learners in six areas, or pathways, of manufacturing: Production; Manufacturing Production Process Development; Maintenance, Installation and Repair; Quality Assurance; Logistics and Inventory Control; and Health Safety

1. Calibration Technician
2. Machine Operator
3. Design Engineer
4. Production Manager
5. Biomedical Equip Tech
6. Laser System Tech
7. Quality Engineer
8. Dispatcher
9. Environmental Engineer
10. Health & Safety Rep

Thinking about pursuing a Manufacturing Career?

Skills recommended for those students interested in Manufacturing include: Machine Operation; Quality Control; Environmental and Safety Engineering; Inventory and Material Management and Control; Computer Integrated Manufacturing; and Teamwork. Check with your guidance office for the appropriate courses and a specific course selection criteria at your school.

Careers in health care are rewarding and growing fast. Many people choose to enter the health field because they like working with people, equipment or technology. Today people are choosing to enter the health field not only because they enjoy working with people or equipment, but they are also learning that the number of available jobs is increasing dramatically as are the earnings and benefits.

An aging population is requiring more skilled workers to care for them. Advancements in technology call for more multi-skilled professionals to provide patient care, research and a focus on preventative care. A career in health care is more than a job..it's a profession. The U.S. Department of



There's A Real Future in Health Care

Labor's Bureau of Labor Statistics predicts the following four careers as health occupations with the largest job growth from 2000-2010

- Registered Nurses
- Nursing Aides, Orderlies and Attendants
- Home Health Aides
- Medical Assistants

Some other fastest growing health occupations include; Physician Assistants, Dental Assistants, Dental Hygienists, Mental Health and substance abuse Social Workers, Speech Language Pathologists, Audiologists, and Veterinary Technicians to name a few.

The Southern New Hampshire Area Health Education Center (AHEC) located in Raymond, NH is committed to increasing awareness of health career opportunities. AHEC offers educational resources such as the NH Health Careers

NH Career Clusters more

Marketing, Sales & Service

Career Opportunities

What is the Marketing, Sales & Service Career Cluster?

This diverse pathway is a full two-year program of instruction that prepares students for careers in planning, managing and performing marketing activities. This pathway will provide instruction as a basis for success in an array of careers and educational pursuits.

1. Small Business Owner
2. Broker
3. Merchandise Buyer
4. Store Manager
5. Creative Director
6. Public Relations Manager
7. Research Associate
8. Database Manager
9. Shipping/Receiving Clerk
10. Distribution Coordinator

Thinking about pursuing a Marketing, Sales & Service Career?

Courses recommended for those students interested in Marketing, Sales and Service include: Intro to Business, Desktop Publishing, Marketing, Financial Planning, Business Management, Economics, Business Computer Applications. Check with your guidance office for comparable courses and a more specific course selection criteria at your school.

For information on who to contact or for more details regarding any of these Career Clusters go to the New Hampshire Department of Education's Tech Prep and Career Clusters web page at:
www.ed.state.nh.us/education/doe/organization/adultlearning/Career%20Development/careerpathways.htm



20 Fastest Growing Jobs in New Hampshire

Occupation	Ave. Hourly Wage ^(1,3)
Medical Assistant	\$12.73
Medical Records Technician	\$13.35
Network Sys & Data Collection Analyst	\$17.92
Physician Assistant	\$30.32
Computer Software Engineer-Apps	\$37.11
Social & Human Services Asst	\$ 9.94
Archeologist/Anthropologist	\$38,620
Self-Enrichment Educ Teacher	\$16.12
Hazardous Materials Removal Worker	\$15.54
Management Analyst	\$35.54
Home Health Aide	\$10.41
Optometrist	\$69.61
Respiratory Therapist	\$21.94
Cardiovascular Technologist/Technician	\$22.55
Computer Software Engineer-Software	\$40.20
Dental Assistant	\$14.89
Fitness Trainer/Aerobics Instructor	\$12.02
Dental Hygienist	\$30.10
Personal & Home Care Aide	\$ 8.75
Veterinarian Technologist/Technician	\$11.66

(1) Yr 2003 average hourly wages. Wage rates include all levels of experience and should not be viewed as entry-level. Wages do not include self-employed workers.

(2) Jobs added reflect projected gain between 2002 and 2012. They do not represent actual job openings.

(3) For professions that typically do not work a standard 40-hour work week, average annual wages are displayed.

